Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
ET Docket 94-32	)	
	)	ET Docket 94-32
Reallocation of spectrum from Federal Government use.	)	
	)	
June 12, 1994	)	

Dear Mr. Secretary,

Please find enclosed the original and eleven copies of comments on ET docket 94-32. Please see to it that they are distributed to whom they are to go to.

Thank you very much.

RESPECTFULLY SUBMITTED,
THE ROCHESTER VHF GROUP,
Tim Stoffel, NS9E,
Secretary.

Tim Stoffel

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In ET Docket 94-32, the FCC is responding to the need to reallocate radio spectrum from Federal Government use, and assign it to private use. This is mandated by the Omnibus Reconciliation Act of 1993, which mandates the transfer of 200 MHz of radio spectrum below 5 GHz from the Federal Government to the private sector over the next 15 years.

Specifically, these comments are directed at the proposed reallocation of spectrum that falls within the Amateur Radio 13 centimeter band. These comments, offered by the Rochester VHF Group, will show why the interests of the Amateur Radio community need to be considered carefully during the course of this proceeding.

The Rochester VHF Group, based in Rochester, NY, is the oldest Amateur Radio VHF society in the country. Its' 150 or so members have always been on the forefront of VHF, UHF and Microwave communication. We feel that any restrictions to, or elimination of the Amateur Radio service from this band would not be in the public interest, or in the best interests of the Amateur Radio service. Furthermore, it would hamper the development of technology for use in this band both within and outside of the Amateur Radio community.

The Amateur allocation at 13 centimeters is currently split into two parts: 2300-2310 and 2390-2450 MHz. This is shared with Government fixed, mobile and radiolocation services (i.e. RADAR) here in the United States. The allocation is on a co-secondary basis. Under this allocation, the Amateur Radio community must not cause harmful interference to the Government fixed- and mobile services, and the Government fixed- and mobile services must not cause harmful interference to the Amateur Radio community. This has been done for years with little problem.

Furthermore, Amateur Radio shares the 2400-2450 MHz segment of this band with Industrial, Scientific and Medical devices, which operate primarily around 2450 MHz.

We will agree heartily that this band is underutilized by the Amateur Radio community at this time. However, as we will show, this is changing. But, let's look at how the Amateur Radio community uses this band:

1. Weak Signal fixed and portable. This is operation using narrowband modes, such as SSB and CW. This primarily takes place in the lower 5 MHz of the 2300-2310 MHz segment.

2. Amateur Television. This band is used for wideband systems, such as AM and FM television.
3. Satellites. This band contains an Amateur Satellite segment suballocation from 2400-2450 MHz. At this time, the only activity here is from 2400-2402 MHz.

Let's look at these one by one, and see what impact reallocation of any of this band might have.

The Weak signal operations take place right around 2304 MHz. These stations are pushing the state of the art with high performance narrowband radio systems. The performance requirements here are great. Stable, on-frequency local oscillators are needed to accurately tune in other stations. Although good front ends are now available for receivers, substantial power in this band still requires exotic microwave semiconductors, TWT's and klystron amplifiers. These devices are still hard to come by for the average ham. Although great strides have been made in producing affordable, easy-to-operate gear for this band, much work still needs to be done.[1]

As far as growth goes, great strides in activity levels are made every year on this band. Although I do not have the actual numbers on hand, the activity level on this band increases every year. This is mostly due to the availability of kits that can get you on this band with a minimum of effort. Although these kits are primarily targeted to experienced builders, newcomers are successfully building them too. About the only thing these kits lack is reasonable power output. (They typically put out only about 10 milliwatts, which is good for only a few miles with dish antennas, if even that.)

The VHF growth explosion has now moved to the Midwest, and numbers of people on the microwave bands (including 13 cm) is increasing dramatically there.

Amateur fast-scan television has been traditionally been done using the standards put forth in part 73 of the rules because much equipment is available that works with NTSC AM VSB television. However, in Europe, FM television has been popular among hams for years, and this is just starting to get a good foothold here. FM television has much to offer: clear, high quality pic-

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1.Two suppliers of equipment for weak signal work on the 13 cm band:

SSB Electronics
124 Cherrywood Dr.
Mountaintop, PA 18707
(717)-868-5643
Preamps, power amps, and transverters for 13 cm.

Down East Microwave
RR1 box 2310
Troy, ME 04987
207-948-3741
Preamps, power amps and transverters for 13 cm.

tures, simple equipment (No vestigial sideband filter or high power microwave linear amplifier needed.), and very easy to operate. However, it takes up a lot of spectrum. Even though commercial television is going the direction of digital, the typical Amateur will not have access to the complex and expensive gear needed to do digital television for the foreseeable future. If FM television continues to catch on, we could see a lot of growth in this relatively new area. The only band below 13 centimeters that could handle these wideband signals is the 23 cm band, and that band is starting to get crowded in some areas. At least one company, Wyman Research[1], makes equipment for this band.

The Amateur Satellite service is still in many ways, in it's infancy. We have seen more satellites launched in the last 5 years than in the entire previous history of the Amateur Satellite program. Although only a couple of birds currently flying operate in this band, and then on an experimental basis, the next generation of satellites will be fully operational on this band. We can't afford to greatly restrict the future operations of our Amateur satellites.

The proposed reallocation would take 2390-2400 and 2402-2417 MHz and reallocate this to the private sector. While not an immediate disaster for the Amateur Radio service, it is not good, either. Let's see why.

First of all, we are left with the least desirable spectrum in the upper half of the band. The closer you get to 2450 MHz, the less usable the spectrum gets, as the background is splattered with the untuned emissions of microwave ovens! This extraneous noise from hundreds and hundreds of sources raises the noise floor to an unacceptable level at that end of the band.

Second, any reallocation that would exclude Amateurs would not be in the public interest, as it would hamper the Amateur's ability to experiment and advance the state of the art. Although most advances in microwave technology seem to be coming out of major corporations, you can bet that a good deal of those new advances were tried in the hamshack first. Some major corporations encourage and support their ham-engineers' efforts to experiment at home, knowing that their good ideas often show up later in the form of improved products! Let's not kill off another source of our best-in-the-world technology!

Third, while it is not an immediate disaster to lose this spectrum, it sets a precedent whereby more spectrum may be taken in the future. Eventually, if enough spectrum disappears, the band will no longer be useful to the Amateur Radio service. Furthermore, companies who make amateur products for this band will quickly stop making them if even a rumor circulates that this spectrum will be lost to us. This only compounds the problem

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1.Due to the extremely short preparation time I had to prepare these comments, I could not obtain an address for Wyman Research. If you would like to find this out, contact me at the address at the end of these comments.

by making it difficult to get on the band.[1]

Lastly, I would like to challenge your definition of the private sector. The Amateur Radio service is administered by the Private Radio branch of the FCC. The activities going on in the ham bands usually don't have much to do with the Government, especially the Federal Government. (The notable exception being disaster relief operations.) If this spectrum is to be allocated to the private sector, why not give some or all of it (That overlaps with our current bands) to the Amateur Radio service on a primary basis? After all, the Amateur Radio service is, for the most part, a private-sector service!

Another future use of this band is for high speed data links for packet radio and it's sucessors. This is the lowest frequency amateur microwave band where reasonable sized dish antennas (<2' diamater) are easy to obtain and use.

The Rochester VHF Group would like to see the following ideas considered, in decreasing order of desirability:

1. Leave the Amateur 13cm allocations alone!
2. Allocate this spectrum in such a way as to cause minimum disturbance to Amateur Radio needs. This could include sharing of spectrum on a co-primary basis, or assigning interference-resistant communications systems (Such as Spread-Spectrum) to areas of the band useless to medium- and long-range conventional communication (Such as the area around 2450 MHz.). This would allow amateurs the ability to continue experimentation with equipment likely to be within their budget!
3. Protect the two portions of the Amateur 13 centimeter band that the weak signal work is carried out in, namely 2303-2305 MHz and the Amateur Satellite portion at 2400-2402 MHz. It would be even better to make these allocations primary.
4. Leave a large, contiguous block available for wideband communications systems such as FM Television.

The Amateur Radio community also would like to respectfully remind the commission that it does not have the deep pockets of big business. It cannot afford to fight against the power of business to get what it wants. The Amateur Radio service only exists because the FCC sees it as a valuable service in the Public Interest. We need the support of the commission to see to it that this spectrum isn't all used to turn a profit somewhere, but that it can be used to help the Amateur Radio operator fulfill his or her duties to the public interest as spelled out in the rules.[2] The ham bands are like public parks- there for all interested to enjoy, utilize, and perform public service in. Let's keep them that way!

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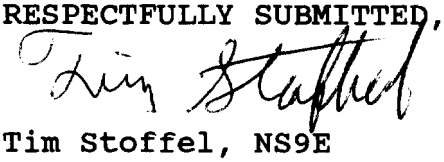
1. See the extensive treatment of this problem given in the Rochester VHF Group's comments to PR docket 93-61.

2. FCC Rules 97.1

In closing, I would like to point out that these comments were prepared in an extreme hurry, as we just learned of the existence of this notice of inquiry last Friday. We didn't have enough time to research things as thoroughly as they should have been. If there are any questions about these comments, write to the address below, or call (716)-325-7500 and ask for Tim Stoffel.

RESPECTFULLY SUBMITTED,



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